AMENDMENTS TO THE CLAIMS

Claims 1 – 17 (cancelled)

18. (new) Method for processing an RR series consisting of a plurality of samples representing the time intervals separating two successive heart beats or the inverse of said time intervals, wherein samples are selected in a main time window having a predetermined length of time, in that said main window is cut into subwindows, in that an intermediary parameter is calculated for each subwindow on the basis of the samples contained in the subwindow and in that a final parameter is calculated as a function of the intermediary parameters.

19. (new) Method according to claim 18, wherein the final parameter is calculated by iteration, by shifting the main time window by a predetermined time interval less than the length of time of the main window.

20. (new) Method according to claim 18, wherein each intermediary parameter is a function at least of the minima of the RR series in the subwindow when the samples of the series represent the time intervals separating two successive heart beats, or is a function at least of the maxima of the RR series in the subwindow when the samples of the series represent the inverse of the time intervals separating two successive heart beats.

21. (new) Method according to claim 18, wherein the calculated value for the final parameter is proportional to the maximum value of the intermediary parameters.

22. (new) Method according to claim 18, wherein the calculated value for the final parameter is proportional to the average value of the intermediary parameters.

23. (new) Method according to claim 18, wherein, for the calculation of the intermediary parameters, an envelope is defined, linking the minimum points measured when the samples of the series represent the time intervals separating two successive heart beats, or linking the maximum points measured when the samples of the series represent the inverse of the time intervals separating two successive heart beats.

24. (new) Method according to claim 23, wherein each intermediary parameter is a function of an area delimited by the envelope.

25. (new) Method according to claim l8, wherein, prior to the calculation of the parameter, the RR series is filtered by means of a high-pass filter with a cut-off frequency superior or equal to 0.1 Hz, and preferably lying between 0.1 Hz and 0.15 Hz.

26. (new) Method according to claim 18, wherein, prior to the calculation of the intermediary parameters, in each subwindow, the samples of the RR series are normalised over the entire width of the main window.

27. (new) System for analysing the variability of the cardiac rhythm, said system comprising means of acquiring an analogue cardiac signal, means of sampling said cardiac signal, and means of processing the sampled signal, designed to construct an RR series consisting of a plurality of samples representing the time intervals separating two successive heart beats or the inverse of said time intervals, wherein said processing means are furthermore designed to calculate automatically from the series at least one final parameter in accordance with the method of claim 18.

28. (new) System according to claim 27 for the assessment of pain, the final calculated parameter characterising a level of pain.

29. (new) System according to claim 27 for the assessment of stress, the final calculated parameter characterising a level of stress.

30. (new) Use of the system for analysing according to claim 27 for assessing the pain felt by a living being.

31. (new) Use of the system for analysing according to claim 27 for assessing the stress felt by a living being.

32. (new) Method for analysing the variability of the cardiac rhythm of a living being, wherein it comprises the following main stages:

- acquisition of an analogue cardiac signal of the living being,
- sampling of said cardiac signal and construction of an RR series consisting of a plurality of samples representing the time intervals that separate two successive heart beats or the inverse of said time intervals,
- processing of the RR series pursuant to the method according to claim I8.

33. (new) Use of the method according to claim 32 for the assessment of the pain felt by a living being, the final calculated parameter characterising the level of pain.

34. (new) Use of the method according to claim 32 for the assessment of the stress felt by a living being, the final calculated parameter characterising the level of stress.